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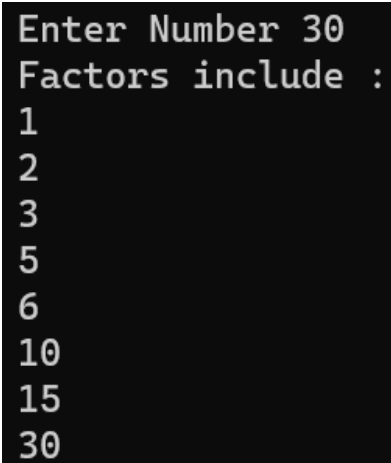
Section B

481281

Assignment 1

Task 1 :

```
#include <iostream>
using namespace std;
int main(){
    int a;
    cout << "Enter Number ";
    cin>>a;
    cout<<"Factors include : "<<endl;
    for (int i = 1; i <= a; i++) {
        if (a%i==0) {
            cout<<i<<"\n";
        }
    }
}
```

A screenshot of a terminal window with a black background and white text. It shows the output of the C++ program where the user has entered 30. The output lists the factors of 30: 1, 2, 3, 5, 6, 10, 15, and 30.

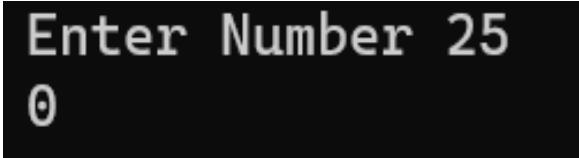
```
Enter Number 30
Factors include :
1
2
3
5
6
10
15
30
```

Task 2 :

x is 5 and y is 10

Task 3 :

```
#include <iostream>
using namespace std;
int main() {
    int a;
    cout<<"Enter Number ";
    cin>>a;
    if (a > 10 && a <=20) {
        cout<<"1";
    }
    else {
        cout<<"0";
    }
}
```

A screenshot of a terminal window with a black background and white text. The first line shows the prompt "Enter Number " followed by the input "25". The second line shows the output "0".

```
Enter Number 25
0
```

Task 4 :

```
#include <iostream>
using namespace std;
int main()
{
    int a, b, c, d ;
    cout<<"Enter Number : ";
    cin>>a;

    b = a;
    while (b >= 2) {
        c = 0;

        d = 1;
        while (d <= b) {
            if (b%d==0) {
                c++;
            }
            d++;
        }

        if (c==2) {
            cout<<"Highest Prime number smaller than the input number : "<<b;
            break;
        }

        b--;
    }
}
```

```
Enter Number : 30
Highest Prime number smaller than the input number : 29
```

Task 5 :

```
#include <iostream>

#include <string>

using namespace std;

int main()
{
    string a, b, c;
    c = "";
    cout<<"Enter 1st string: ";
    cin>>a;
    cout<<"Enter 2nd string: ";
    cin>>b;

    if (a == b) {
        for (int i = 0; i < a.length(); i++) {
            c = a[i] + c;
        }
        cout<<"Strings are equal and the reversed string is: ";
        cout<<c;
    }
    else {
        cout<<"Strings are unequal";
    }
    return 0;
}
```

```
Enter 1st string: break
Enter 2nd string: break
Strings are equal and the reversed string is: kaerb
```

Task 6 :

```
#include <iostream>

using namespace std;

int main()
{
    int dividend, divisor, remainder, quotient;

    cout<<"Your Dividend must be greater than divisor"<<endl;
    cout<<"Enter dividend: ";
    cin>>dividend;
    cout<<"Enter divisor: ";
    cin>>divisor;

    if (dividend < divisor) {
        cout<<"Divisor cannot be greater than dividend";
    }

    remainder = dividend;

    for (int i = 1; i <= dividend; i++) {
        remainder -= divisor;

        if (remainder < divisor) {
            quotient = i;
            break;
        }
    }

    cout<< dividend<< " / "<< divisor <<" = "<< quotient ;
    return 0;
}
```

```
Your Dividend must be greater than divisor
Enter dividend: 8
Enter divisor: 2
8 / 2 = 4
```

Task 7 :

```
#include <iostream>

#include <string>

using namespace std;

int main()
{
    string a, b;

    bool c;

    cout<<"Enter String: ";

    cin>>a;

    b = "";

    for (int i = 0; i < a.length(); i++) {
        c = false;
        for (int j = 0; j < b.length(); j++) {
            if ( a[i] == b[j] ) {
                c = true;
            }
        }

        if (c == false) {
            b += a[i];
        }
    }

    cout<<"End Result: "<< b;

    return 0;
}
```

```
Enter String: blahblahblahblah
End Result: blah
```

Task 8 :

```
#include <iostream>

using namespace std;

int main()
{
    int b[8], a[5] = {1,2,3,4,5};

    cout<<"Current array is: {";
    for (int i = 0; i<5; i++) {
        cout<<a[i];
        if (i==4)
            continue;
        cout<<" ";
    }
    cout<<"}\n";

    for (int i = 0; i<5; i++) {
        b[i] = a[i];
    }

    cout<<"Enter 3 integers to be added to the array: "<<endl;
    for (int i = 5; i<8; i++)
        cin>>b[i];

    cout<<" Elements of array are : "<<endl;
    for (int i = 0; i<8; i++) {
        cout<<b[i]<<" ";
    }
    return 0;
}
```

```
Current array is: {1, 2, 3, 4, 5}
Enter 3 integers to be added to the array:
9
12
15
Elements of array are :
1 2 3 4 5 9 12 15
```


Task 9 :

```
#include <iostream>

using namespace std;

int main()
{
    int a, b, c, d, sum, arr[10];

    cout<<"Enter 10 integers for array: ";
    for (int i = 0; i<10; i++) {
        cin>>arr[i];
    }

    bool found = false;
    cout<<"Enter integer d: ";
    cin>>d;

    cout<<"Triplets are: ";
    for (int i = 0; i<10; i++) {
        for (int j = 0; j<10; j++) {
            if (i == j)
                continue;

            for (int z = 0; z<10; z++) {
                if (z == i || z == j)
                    continue;
```

```

        sum = arr[i] + arr[j] + arr[z];
        if (sum == d) {
            cout<<" ("<<arr[i]<<" , "<<arr[j]<<" , "<<arr[z]<<"");
            found = true;
        }
    }
}
}
if (found == false) {
    cout<<"No Triplet Found";
}
return 0;
}

```

Enter 10 integers for array: 3

5
2
1
9
4
6
7
8
0

Enter integer d: 16

Triplets are: (3, 5, 8) (3, 9, 4) (3, 4, 9) (3, 6, 7) (3, 7, 6) (3, 8, 5) (5, 3, 8) (5, 2, 9) (5, 9, 2) (5, 4, 7) (5, 7, 4) (5, 8, 3) (2, 5, 9) (2, 9, 5) (2, 6, 8) (2, 8, 6) (1, 9, 6) (1, 6, 9) (1, 7, 8) (1, 8, 7) (9, 3, 4) (9, 5, 2) (9, 2, 5) (9, 1, 6) (9, 4, 3) (9, 6, 1) (9, 7, 0) (9, 0, 7) (4, 3, 9) (4, 5, 7) (4, 9, 3) (4, 7, 5) (6, 3, 7) (6, 2, 8) (6, 1, 9) (6, 9, 1) (6, 7, 3) (6, 8, 2) (7, 3, 6) (7, 5, 4) (7, 1, 8) (7, 9, 0) (7, 4, 5) (7, 6, 3) (7, 8, 1) (7, 0, 9) (8, 3, 5) (8, 5, 3) (8, 2, 6) (8, 1, 7) (8, 6, 2) (8, 7, 1) (0, 9, 7) (0, 7, 9)

Task 10 :

```
#include <iostream>

using namespace std;

int main()
{
    int a, k = 6, arr[k];

    cout<<"Enter "<< k <<" integers for array: ";

    for (int i = 0; i<k; i++) {
        cin>>arr[i];
    }

    for (int j = 0; j<(k-1); j++) {
        for (int i = 0; i<(k-1); i++) {
            if (arr[i]>arr[i+1]) {
                a = arr[i];
                arr[i] = arr[i+1];
                arr[i+1] = a;
            }
        }
    }

    cout<<"Final Array: {";

    for (int i = 0; i<k; i++) {
        cout<<arr[i];

        if (i == k-1)
            continue;

        cout<<",";
    }

    cout<<"}";

    return 0;
}
```

```
Enter 6 integers for array: 18
15
12
31
2
0
Final Array: {0,2,12,15,18,31}
```

